

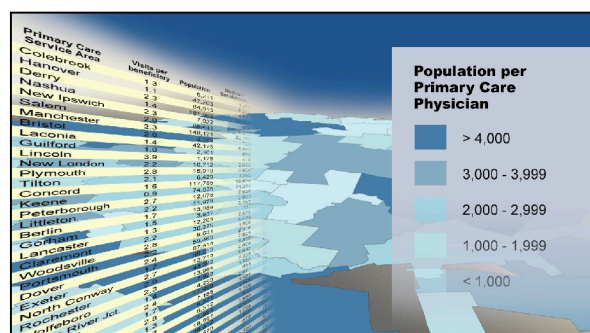
The Primary Care Service Area Project

The goal of the Primary Care Service Area (PCSA) Project is to provide information about primary care resources and populations within small standardized areas that reflect patients' utilization patterns. The definition of PCSA boundaries and description of these areas will be contained within a database linked to a geographic information system (GIS) to allow federal, state, and academic users easy access. *Internet access to the PCSA database will be available to registered users in the fall of 2001.*

Background. Current information about primary care suffers from several weaknesses. Measurements about primary care resources and utilization is currently difficult to access and usually summarized to geographic levels (e.g., counties, states) that poorly reflect utilization patterns. As a result, measures of physician supply in counties are often confounded by patient travel to primary care services across county boundaries. States are too large to be useful measures of primary care, which is the most localized type of medical service. Current measurement systems also lack standardization. While some states have individually developed internal measurements for primary care utilization and distribution, they are not part of a national measurement system, and have limited value for assessing the primary health care needs of populations.

The nation to date has no system to define and characterize geographic areas that delineate existing delivery patterns of primary care services for the *entire* nation system using a standardized method. Also, there is no primary care service area definitional system that is linked to a national database of pertinent health care resources, population descriptors, health care need measures, or utilization statistics that reflects the availability and delivery of primary care services to people across the United States. The lack of an adequate system to organize and analyze primary care service data impedes efforts to make quality primary care resources more accessible to everyone.

The PCSA Project. The PCSA Project is helping to rectify the deficiencies in the existing primary care data infrastructure by creating service areas using nationwide claims data to reflect actual utilization patterns for primary care clinical services. These service areas build on the hospital service area approach that has been successfully employed by Dr. John Wennberg and his Dartmouth associates to produce the *Dartmouth Atlas of Health Care* series.



PCSAs are defined by aggregating ZIP Codes on the basis of primary care utilization patterns derived from Medicare ambulatory claims data. PCSA boundaries are then adjusted in order to establish geographic contiguity. Subsequently, Medicaid and commercial insurance primary care claims in selected states are analyzed to assess the soundness of the PCSA regions for representing primary care utilization of younger populations. Primary Care Service Areas are linked in a GIS to data characterizing the regions using demographics, primary health care resources and utilization measures.

The unique features of the Primary Care Service Areas (PCSA) include:

- service areas that encompass actual patterns of local primary care use between patients and providers derived from uniform nationwide Medicare claims data
- links between each PCSA and specific primary care resources, like physician workforce measures
- links between each PCSA and population characteristics
- links between each PCSA and primary care utilization
- opportunities for each PCSA to be cast into the larger framework of relevant political, sociologic, and economic characteristics.
- a flexible database and software system to allow users to add local information and adjust PCSA definitions according to specific planning needs, such as rational service area definition

The PCSA project is the first of its kind to 1) define primary care service areas throughout the U.S. using standardized methods; 2) pioneer the development

of a relational database that synthesizes diverse information regarding health care resources, populations, geography, and utilization; 3) establish links between the data and each PCSA in a geographic information system; 4) provide access to a wide range of users, from the novice to the sophisticated, and 5) encourage the users to view the underlying assignment data, add further information, and adjust area definition to specific analytic purposes.

Impact on Policy and Research. The culmination of this project is a national database of primary care-related data that will be available to a wide variety of health care policy makers and researchers across the nation. Anticipated data users include federal officials interested in the supply and availability of primary care resources, state officials primarily concerned with local population needs, health service researchers, and individuals from health care systems, municipalities, medical schools and graduate medical education programs.

Information Access. An important goal of the PCSA project is to develop systems for the dissemination of primary care-related data in forms suitable for widely diverse users with differing needs and computing resources. To this end, the research team has developed an internet-based Geographic Information System based on ArcIMS that will be easy-to-use, detail-oriented, and multi-user accessible. Novice users may gain access with a simple Internet browser. More advanced users will

be able to download ArcView project files and files in Excel and .dbf formats. In order to comply with data license agreements, access to the PCSA data will be available only to registered users. All users will have access to detailed information about the development and potential uses of PCSAs and the associated data.

The role of states. State primary care offices and associations have a critical role in the PCSA project both as evaluators of the methods and as end users. Nine states have served as official pilot states, although many others have also contributed important suggestions. For some states, the PCSA database will be a starting point for organizing their own primary care analyses, and for others it will supplement existing sophisticated efforts. Over the long term the project's aim is to incorporate data from states and other sources to continually improve the quality and generalizability of the PCSA information.

Updating and improving the PCSA database. The development process used in the creation of the PCSA database was designed to allow for relatively simple additions to the associated data as well as updating of the PCSA definitions. The project will exploit the advantages of Internet dissemination to continually update the PCSA data in the coming years. Planned additions include measures of geographic accessibility, numbers of mid-level providers, Census 2000 data, and incorporation of existing county-based health care and population information.

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